





Harvard University  
Cambridge, Massachusetts  
Volume 18, Number 1  
Winter, 1988

# MCZ newsletter

see p. 3

Darlington - please return

MUSEUM OF COMPARATIVE ZOOLOGY

## Travel Program

(For more information about any of the departures mentioned, please call the Friends of the MCZ office at 617-495-2463)

The Friends of the MCZ are traveling more and further each year as the Travel Program, now in its 14th year, continues to add new destinations to the annual roster. The program, which started with one Baja California whale watching trip in January 1975, this year offers adventures that include cruises to Antarctica, the Caribbean, Polynesia, and the Galapagos Islands, two Kenya national parks safaris, two Tanzania camping safaris, and a proposed Patagonia expedition to see right whales with Roger Payne.

**Antarctica:** Director James J. McCarthy will lead a group of 38 aboard the *Society Explorer* in January. The trip will include visits to



Photo by Don W. Fawcett

*Land iguana in the Galapagos Islands*

Elephant Island and the Falklands. Another Antarctica expedition is planned for January, 1989 accompanied by Professor Farish A. Jenkins, Jr. Thirteen participants have already reserved their space for 1989 and Friends who are interested in joining are urged to contact the Friends office soon to avoid the traditionally long waiting list.

**Caribbean:** A quick getaway week (or two) in February/March aboard the *M.S. Ambassador* offers a low-cost opportunity to explore different islands and snorkel in the Caribbean's warm, prolific waters accompanied by Dr. Ron Etter, an expert in marine life.

**Polynesia:** This March 4-25 cruise from Easter Island to Papeete, Tahiti aboard the *Society Explorer* is now filled. It is being offered jointly with Harvard Alumni Association and the California Academy of Sciences.

**Galapagos Islands:** Join the MCZ's

Greg Mayer and Craig McFarland, President of the Charles Darwin Foundation, aboard the new *Isabela II*, for a thorough exploration of these legendary islands, August 5-18. The trip begins with three days in Ecuador and there is an optional one-week extension to Peru.

**East Africa:** Four safaris are scheduled. At this writing, 17 participants are tenting in Tanzania with Rob Dorit and Gillian Kendall. The other Tanzania safari, August 1-16, has room for one female participant. There are a few spaces on both the February 25-March 12 and the August Kenya safaris.

**Patagonia:** Final plans are now being made for this adventure to the southern tip of South America with visits to the whale research sites of Roger Payne and Natalie Goodall. This expedition is offered jointly with Roger Payne's Long Term Research Institute.



Photo by Emily Hubbs Scott

*Marine iguana on the dock on Santa Cruz, Galapagos Islands*

Join the Friends of the MCZ and receive advance notice of all travel programs.  
See back page.



# Gorilla Trekking in Rwanda and Zaire

by Gabrielle Dundon Whitehouse,  
Director of Public Programs

In order to assess opportunities for tourism in Rwanda and Zaire, I took part in a November exploratory trip in the company of travel planners from the San Diego Zoo, the American Museum of Natural History, and the California Academy of Sciences, as well as a travel magazine editor and three representatives from the host travel operator. While the trip was too short to allow for appropriate appreciation for some of the areas visited, we had excellent gorilla trekking experiences in both Rwanda and Zaire.

Four mountain gorilla groups in Rwanda's Parc du Volcanes in the Virunga Mountains, where Dian Fossey worked, have been habituated to human visitation for more than seven years. The Rwandan government operates a well-run visitor program which allows six visitors to each gorilla group per day led by a tracker guide and several assistants. Permits must be obtained months in advance, are costly, and non-refundable.

We divided into two parties to visit the two groups of gorillas that were within a one-day trek from the park entrance. The group I was assigned to comprised 13 gorillas and was extremely easy to reach. It required only a half-hour walk, a walk made rigorous by the 8,000-foot altitude, through terraced vegetable gardens to the edge of the bamboo forest. The sound of crashing bamboo warned us that the gorillas were right at the forest edge. "If they'd been any closer we would have had room service" quipped the magazine editor. Before entering the forest, the group was instructed in Rwandan-mountain-gorilla-visiting etiquette. During our stay with the gorillas (we were allowed an hour), we were to speak only in whispers, stay low, avoid eye contact, and assume a crouching posture if the silverback (the group's dominant male marked by a striking silver chevron on his back) should charge. We were not to use a flash and should follow at all times the instruction of Francois, our

tracker-guide who spoke only French. Little did those of us who had labored through high school or college French, wondering if it would ever be relevant to our lives, expect to be rewarded for our efforts in such a dramatic way.

Everyone made final adjustments to cameras and gear, and the signal to enter the forest was finally given. Creeping silently (or as silently as the uneven terrain of bamboo debris allowed) I was nearly knocked over almost immediately by two juvenile males boisterously wrestling and rolling around and totally ignoring our presence. We literally had to jump out of their path on the more energetic tumbles. A third juvenile joined them, announcing his presence with the ritualistic chest beat (three right-left-right alternating beats with a particular flourish on the last beat). Following the instructions of our guide, we skirted around the rambunctious trio and crept to a clearing with a pool of water. An adult female was drinking by dipping her forearm into the water and sucking it off the thick fur. A juvenile visited the pool, bent over and stared at himself intently for several minutes, and then started slapping the

water furiously with both hands, as if to make that other gorilla go away. A male infant ran into the clearing, looked directly at us, and then beat his chest in that same ritualistic pattern. Leaving the clearing we came upon the silverback, with his curiously-shaped domed head, sitting and chewing thick bamboo canes that he broke easily with his powerful hands, which resembled baseball mitts. Although he weighed approximately 450 pounds, he looked so peaceful that it never occurred to us to be afraid. He was clearly aware of our presence but totally unconcerned about it.

We had now been with the gorillas for about 20 minutes and suddenly what had been a slight drizzle developed into a major downpour. The gorillas huddled along a rock wall and those of us who had been attempting to photograph in the impossibly dark forest conditions now packed away our cameras. An adult female came to sit three feet away from where I was standing with our guide. An infant came close to her emitting a little whining noise. She encircled him in her arms and he nursed, his eyes opening and closing in mesmerized contentment. Meanwhile Francois and I whispered in French. "How many years do they nurse?" I asked. "Four," he replied.



Lowland gorilla (*Gorilla gorilla*) silverback eating bamboo in Kahuzi-Biega National Park, Zaire.

Photo by Gabrielle Dundon Whitehouse



He explained that the females give birth every five years, having a year for conception and pregnancy after weaning the previous infant. We watched the infant switch sides and nurse sleepily. On that tender note we bid the gorillas farewell and crept out of the forest in the pouring rain.

The members of the other party had a quite different experience. Their group was a two-and-a-half hour hike away from the forest entrance. In the heavy rain the terrain was extremely slippery and much of it was uphill and steep. They had to grab on to roots to pull themselves up and developed a great camaraderie while helping each other through the ordeal. When they finally reached the gorillas they found them quite inactive because of the rain.

Since the gorillas are free-ranging, there is never any guarantee as to how accessible they will be on a particular day. Gorilla expeditions carry with them a definite element of uncertainty, and should only be undertaken by people in good physical shape. Rain is another factor to consider. Paradoxically, it is better to go in the rainy season when the chances are better that the gorillas

will be close to the forest edge; in the dry season they range further into the forest looking for fresh bamboo shoots. However, as we witnessed, the gorillas do not enjoy the rain and if one's visit happens to coincide with a major downpour, the behavior one sees mostly is a miserable-seeming huddling together.

Our subsequent expedition to trek the lowland gorillas in Zaire promised to eliminate many of these problems. And while this turned out to be so, we were also presented with new puzzles to solve.

Kahuzi-Beiga National Park in Zaire is home to four groups of lowland gorillas which have been habituated to visits by humans over the last four years. It is much easier to obtain trekking permits in Zaire, eight rather than six visitors are assigned to trek together, and visits can last up to two hours. Conditions are much easier than in Rwanda since the altitude is lower and the weather is dryer. Here we had two days of trekking. On the first day we were among the "Maheshe" (named after the silverback) group within seven minutes of leaving the paved road. Happily for the photographers, they were in the open in bright sun-

shine. Of the 22 gorillas in the group, we saw the silverback, two females and several juveniles eating copious quantities of bamboo. The lowland silverback averages 550 pounds and does not have the domed head of the mountain silverback. On the second day, I opted to explore Irange forest with our birding leader, while the other members of our expedition visited the "Mushamuka" group, whose silverback had a reputation for being aggressive. In fact, Mushamuka charged the group four times, emitting loud screams as he bore down. Etiquette in Zaire calls for standing your ground and taking pictures while the silverback charges. Our group was somewhat hesitant to follow these instructions and, in fact, were shamelessly frightened by the experience and turned and ran when charged, much to the chagrin of the guide. The experience was in marked contrast to the gentle encounters in Rwanda.

This exploratory expedition was a natural history adventure of the first order, and those with a spirit of adventure and the necessary physical stamina are encouraged to call me (617-495-2463) to discuss logistics for traveling to Rwanda and Zaire.

## Two Teachers Join Education Department

Museum teachers Kim Rothman and Cindy Boccia have joined Nancy Christ in teaching the Cambridge Schools Science Program this year. Together they visit 36 classes once a week during the course of the school year. Although their work load is heavier than their counterparts in public schools, they value the opportunity to use the vast resources of the MCZ to teach science to a variety of students.

Cindy Boccia was a participant in last summer's MITS (Museum Institute for Teaching Science) program at the MCZ conducted by Education Director Arlene Nichols and Winifred Eisan. She found that she enjoyed the MCZ so much that she applied for and was appointed to a position on the teaching staff. Previous experience as an environmental educator combined with classroom teaching in the Beverly, Massachusetts school system contribute to her facility for developing



*Museum teachers (l. to r.) Nancy Christ, Kim Rothman, and Cindy Boccia*

exciting lessons about the natural history of Cambridge.

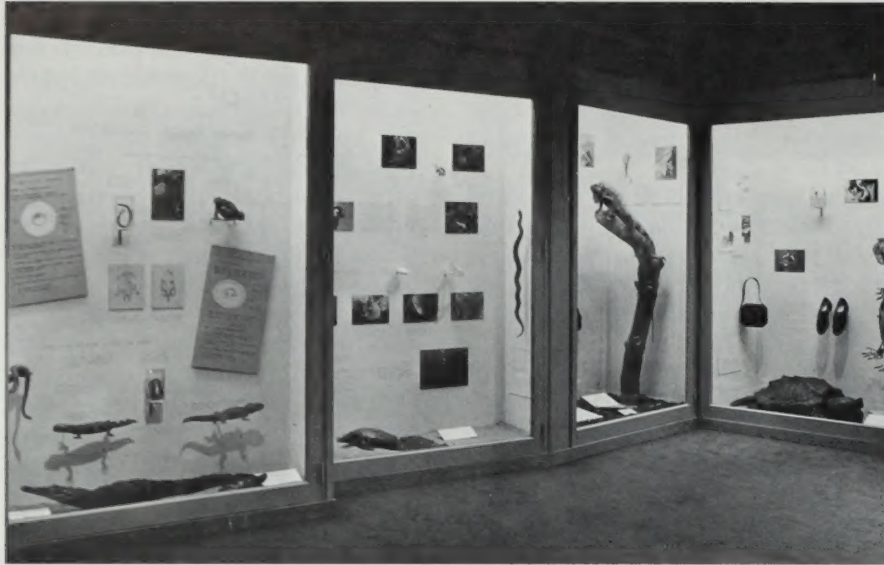
Kim Rothman, a native of Massachusetts, lived and taught in Australia from 1976-1986. After her husband completes his Ph.D. studies, they plan to return to Australia permanently. Prior to arriving at the MCZ this fall, she taught literacy to convicts at an Australian maximum security prison. She recalls the con-

cern for her safety with which her students, including one who was convicted of a double murder, greeted her announcement that she was planning a one-year return to the United States. The science component of all Australian teacher training programs gave Rothman the versatility to adapt to teaching the MCZ's program.

Nancy Christ is in her second year of teaching part-time in the MCZ's Cambridge program. She also works at Habitat Institute for the Environment in Belmont, the site of the spring outdoor component of the MCZ's program, and as a consultant for special education projects at the Arnold Arboretum. Christ's classes include the Haitian students in the Cambridge Public Schools Bilingual Program. Many of these students are having a first experience with formal education and the challenge for her is to make learning the natural history of a new environment in a new language successful rather than overwhelming.



# The Evolution of Exhibitions



*The new Amphibians and Reptiles exhibition*



The Special Exhibitions at the MCZ, like much of the subject matter they explain and dramatize, have been in a state of evident evolution from their inception in 1979, when "Fishes from a Coral Reef" graced the Gallery on the third floor. In the meanwhile, 23 Special Exhibitions have been mounted by the MCZ, including, during this past year, three highly acclaimed successes: "Found Art at the MCZ," "Songs of

the Spring Warblers," and "Beetlemania!" Each of these effectively fulfilled the primary goals of Public Programs by demonstrating the range and diversity of behind-the-scenes collecting and research at the Museum to the public at large and special interest groups. "Beetlemania!" in particular generated enormous public interest as local and national media—newspapers, magazines, and radio and television stations—carried news stories and features about the exhibition from coast to coast and beyond. Special exhibitions have evolved, in short, to become an integral and dynamic part of Public Programs at the MCZ.

The coming year promises to be especially interesting. Exhibits Director Ed Haack and his assistant, Bob Davidson, are working with a host of curators and other staff members on four special exhibitions. The first of these, "Nabokov's Butterflies," will feature memorabilia from the distinguished novelist's years as a research fellow in lepidoptera at the MCZ.

The permanent exhibitions at the MCZ are also undergoing some changes. The museum has received a two-year conservation grant from the Institute of Museum Services to place ultraviolet ray-filtering sleeves over the fluorescent lights in the cases to help prevent specimen deterioration. The grant also provides funds to build a new case to

display the pair of pheasants that George Washington received from the Marquis de Lafayette.

In addition, the Herpetology Department, under the supervision of Jose Rosado and Franklin Ross, has installed a needed and well-received exhibition on "Amphibians and Reptiles" in the recently renovated gallery next to the Botanical Museum. Initially conceived as a temporary display, the exhibition has—through the dedicated work of many volunteers—surpassed its original purpose to become part of the public exhibits for an indefinite period of time. As such, it constitutes another invaluable resource for the education department's courses and guided tours.

## Laetoli Footprints Cast Acquired by Education Department

A cast of the early hominid footprints from Laetoli has been added to the Education Department's resources. The cast was purchased by the Friends of the MCZ from the Kenya Museum in Nairobi in memory of Museum Guide Norman Russell, fossil interpreter extraordinaire. The footprints are a bit under 3.75 million years old and are thought to represent two individuals, one set larger and one smaller, which could be those of an adult and child or a male and female, walking side by side. Evolution is one of the most often requested topics for group tours, and the footprints will add a dramatic new dimension to programs this spring.

*The MCZ Newsletter is published two or three times a year by the Museum of Comparative Zoology, Harvard University, Oxford Street, Cambridge, Massachusetts 02138; James J. McCarthy, Director.*

*Editor: Gabrielle D. Whitehouse  
Photographer: A. H. Coleman  
Contributing writers: Jane Anderson, Alfred Alcorn*



## Staff News

Scanning Electron Microscope Technician **Trisha Rice** was awarded the second prize in the electron micrography category of the 1987 Polaroid International Instant Photomicrography Competition. She has received a check for \$750, a framed certificate, and her photo will be distributed to magazine editors for publication. It will also become part of a series of traveling exhibition images available to science museums and universities worldwide.

Natural history museums fared well in the contest. The first prize went to a staff member of the Australian Museum. This sixth annual competition attracted nearly 400 entries from around the world.

This was Rice's first foray into the competition. She picked the subject flower while walking to work. She is currently deciding between spending her prize money on a trip or a mountain bike.



Prize-winning photograph: pollen on petal of a *Spirea* flower magnified 2,700 times using an Amray 1000 Scanning Electron Microscope

## A Harvard Exclusive: 'Beetlemania'

CAMBRIDGE, Mass., Oct. 5 (AP) — Ladies and gentlemen, meet the beetles.

More than 5,000 of them, ranging in size from fist-sized Goliath beetles to specks that measure less than a fraction of an inch, are on display for six weeks at Harvard University, many for the first time, in an exhibit called "Beetlemania."

Air-dried and preserved behind glass display cases, blister beetles, whirligig beetles and snout beetles are among the specimens that scientists hope will show the public that the bugs are interesting and attractive.

### 'A Lot of Them Are Quite Dazzling'

"If you think of beetles, you think they're all small and black and uninteresting," said Scott Shaw, 32 years old, the curatorial associate who came up with the idea of displaying this collection at Harvard's Museum of Comparative Zoology.

"But a lot of them are quite dazzling. We personally think of them as beautiful. It's just the average person never sees them."

Most of the collection is from North America, but some of the tropical bugs from Latin America and Asia are so brightly colored and iridescent they look as if they had been painted and lacquered. Called jewel beetles, their shells were often used for earrings and bracelets in countries such as Ecuador, Peru and India.

The beetles are grouped according to specimen and labeled with touches of entomological humor.

For example, there is the "Holy Rollers" exhibit, on the dung-feeding scarab beetle. The Egyptians believed that the scarab beetles' habit of rolling dung was similar to the motion of the sun rolling overhead each day and attributed cosmic significance to it.

### Banjo Beetles From Borneo

The display of weevil beetles is called "Weevil Overcome." The predatory diving beetles are on view under the sign "Blazing Paddles." The tiger beetles, often found along sandy beaches, are "The Beach Boys." And the exhibit showing the bark beetles, re-

sponsible for tree-killing fungi like Dutch Elm disease, is "Nightmare on Elm Street."

Some of the beetles, such as June bugs, are familiar. Others are not, such as the banjo beetles from Borneo, which get their name from their wafer-thin, bronze-wood colored shells and black, string-like limbs that resemble miniature banjos.

Mr. Shaw, who began collecting insects when he was 4 years old, concedes that some people may not be as enamored of the creatures. One woman walked by

**'We personally think of them as beautiful,' says one of the curators.**

the display and shouted, "This is disgusting!" he said. But Otto Scholz, visiting the museum from Philadelphia, gazed at the rhinoceros beetles, turned to a friend and said, "Beautiful, aren't they?"

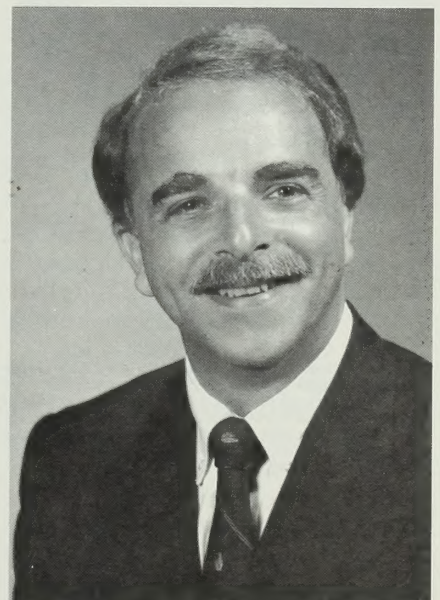
"It's common for people not to like any insects," Mr. Shaw said. "They're creepy, crawly and all that. But many of them are just out there doing their own thing. A lot of them are beneficial. The majority are not dangerous to humans."

Mr. Shaw and his assistants, Ed Armstrong and Charlie Vogt, point out that insects make up 60 percent of all living things and that beetles alone make up 25 percent of living things. Beetles are distinguished from other bugs because their front wings are hard and form a shell-like surface to protect their back wings.

Mr. Shaw and his team created the exhibit from more than 3 million beetle specimens collected from the mid-1800's to the present that are preserved in a museum vault.

On the door is a photograph of — what else? — the Beetles.

**Ira Rubinoff**, Director of the Smithsonian Tropical Research Institute for the past 13 years, is spending his sabbatical year in E.O. Wilson's laboratory. A 1964 Harvard Ph.D. who studied with Ernst Mayr, Rubinoff is engaged in a number of projects including a book on sea snake diving physiology with Jeffrey Graham of Scripps Institute. His



*Ira Rubinoff*



# Cladistics Thrive at the MCZ

Three recent events—Professor James Carpenter's appointment as co-editor of *Cladistics*, the quarterly journal of the Hennig Society, Carpenter's chairing of a cladistics symposium at the Annual Meeting of the Entomological Society of America, and graduate students Wayne and David Maddison receiving the first prize in the Apple Computer company's academic software competition with their *MacClade* program—indicate the level of acceptance that this relatively new classification tool for evolutionary studies now enjoys among the younger researchers at the MCZ.

The term "clade" comes from the



Outspoken cladist James Carpenter is a man of diverse talents. Here he takes a break from wasp collecting to ride an ostrich at Oudtshoorn, Cape Province in 1985.

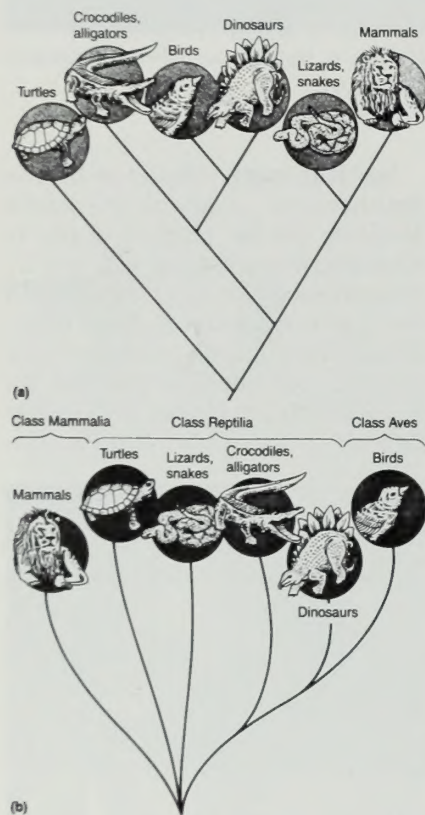


Figure 18.10 Cladistic versus traditional views of vertebrate phylogeny. (a) A cladogram depicting phylogenetic branchings. Birds are placed on a branch with dinosaurs and crocodiles; this branch would form a taxon, perhaps a class of vertebrates. Other reptile groups and mammals would form other classes. (b) A traditional phylogenetic tree of vertebrates, recognizing reptiles, birds, and mammals as three separate classes of vertebrates.

Diagram demonstrating the different approaches of traditional evolutionary systematics and cladism.

Reprinted with permission from Mitchell, Mutchmor, and Dolphin: *Zoology*, 1988, The Benjamin Cummings Publishing Company, Inc.

English in 1966 that cladistics, a term coined by Ernst Mayr, became generally known. The fact that Hennig enjoyed great prestige as the leading authority on Diptera (flies) of his time added to the credibility of his revolutionary approach.

According to Carpenter, the acceptance of cladistics seems to be generational. As Nils Bohr said of quantum mechanics, "It advances with every funeral." Among younger researchers cladistics is now widely used in every area except biomolecular evolution, an area Carpenter plans to emphasize in his role as *Cladistics* co-editor.

## Staff News

(continued from page 5)

efforts on behalf of the endangered rain forest ecosystem are well known. In "A Strategy for Preserving Tropical Rain Forests" published in *Tropical Rain Forest: Ecology and Management*, he proposes a plan to save the world's tropical rain forests through the establishment of a system of 1,000 reserves averaging 100,000 hectares each. These would be financed with funds provided by all nations with an annual per capita gross national product in excess of \$1,500, thus taking the pressure off third world countries.

Professor emeritus **Ernst Mayr** has been appointed the Charles M. and Martha Hitchcock Professor at the University of California, Berkeley for the 1987-88 academic year. Professor **Farish A. Jenkins, Jr.** received the second annual Irving M. London Teaching Award presented by the Harvard-MIT Division of Health Sciences and Technology in October. Graduate student **Steve Gatesy** was one of two recipients of the Alfred S. Romer Prize from the Society of Vertebrate Paleontology for his paper on "Dinosaur Limb Kinematics and Theropod Evolution". Professor **E.O. Wilson** received the 1987 Prize in Terrestrial Ecology of the Ecology Institute of Germany. Wilson was also recognized for his work in sociobiology by the University of Bergen, Norway, which awarded him the Rector's Medal in September.



# Cladistics Made Easy With MacClade

Researchers throughout the world are now using Wayne and David Maddison's prize-winning program, *MacClade*, for analyzing the evolutionary history of organisms. The two MCZ graduate students, winners in the 1987 Apple Computer Company's academic software competition, received \$25,000 in prize money.

*MacClade* is a graphic program providing analytical capabilities for researchers not previously available, yet in a manner easily accessible to beginning students. The most notable drawbacks to the programs already in existence were the lack of user-computer interaction and the lack of tools for analyzing the evolution of characters. In previously written programs, the user would enter commands for analyzing data after which the text would fly by on the screen or printer. With *MacClade*, the graphic and interactive interface enables the user to manipulate and examine the phylogenetic trees, thus bringing them to life rather than leaving them as objects frozen in illustrations or hidden in lists of numbers. *MacClade's* graphic tracing of character evolution on a phylogenetic tree is readily understood and easily manipulated to explore alternative hypothesis of character evolution.

The Maddisons' first attempt at computer program writing grew out of their research needs and *MacClade* becoming a generally-available product was an afterthought. "The time was ripe", according to the Maddisons for this breakthrough in computer programming and they are confident it will pave the way for

future development in systematics software. "We are basically creating our own market since *MacClade* is a relatively new way to view cladistics. The more information spread, the more interest generated." When asked why a program like this had not been created before, David responded, "Before the development of the Macintosh, personal computers were such that it would have taken at least three times as long to develop a less satisfying program."

Although the Maddisons, who are natives of Canada, had been interested in insect biology since early childhood, their interest developed into a way of life in their thirteenth summer when Wayne found a jumping spider on a clump of grass floating on Lake Ontario. They spent that summer collecting and drawing jumping spiders with colored pencils and ink and Wayne developed the technique that David has since honed to a fine art. Wayne's first favorite book was *Spiders and Their Kin* by Herbert W. Levi (now Wayne's professor at the MCZ). Their interest in biology continued to grow through high school when they became fascinated with mathematics and as a result took their first and only computer course. They did their undergraduate studies at the University of Toronto, following which Wayne came to the MCZ to work on the diversity of evolution of the jumping spider genus *Metaphidippus* and David pursued a master's degree from the University of Alberta, concentrating on the ground beetle genus *Bembidion* for his thesis. Upon completion of the program David joined Wayne at the MCZ and is cur-

rently studying theory of systematics. They both plan to continue to teach and pursue their research upon completion of their studies.

## Staff Changes in Public Programs

Visitors to the Public Programs Office this winter will find new staff members and a rearranged office. Jean Brown, Staff Assistant for nearly 13 years, retired at the end of November. During her tenure the activities of the department grew enormously and she was invaluable at fulfilling the variety of tasks and meeting new challenges. Her many good friends at the MCZ wished her farewell at several events held in her honor in November.

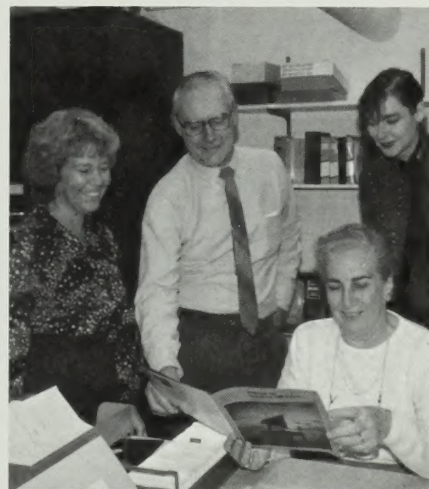
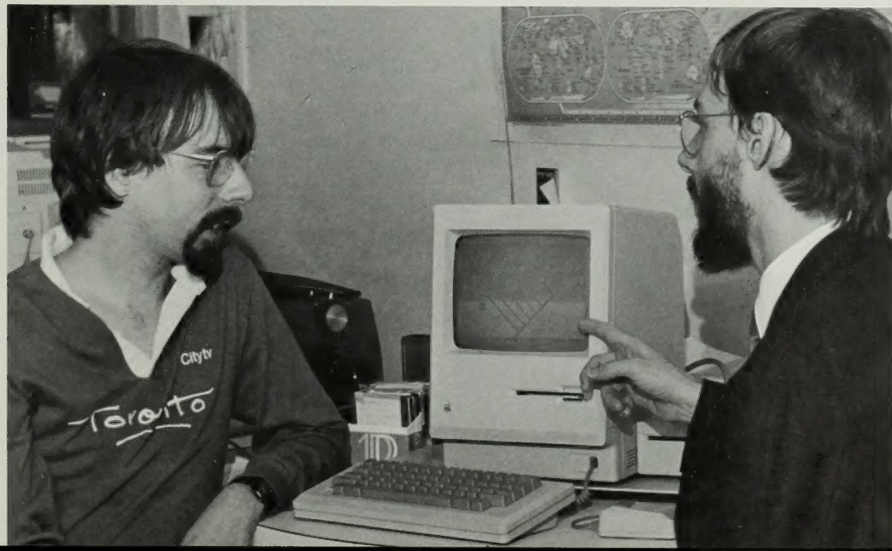


Photo by Rolanda Ritzman

*Changing of the guard in Public Programs. Gabrielle Dundon Whitehouse, Director, Alfred Alcorn, and Jane Anderson gather around Jean Brown, who recently retired.*

The retirement occasioned a reassessment of staffing needs in Public Programs and it was decided to hire two staff members: Alfred Alcorn, former editor of the *Harvard Gazette*, is now assisting with the mushrooming membership and travel programs; and Jane Anderson, former Agassiz Museum Shop manager who assisted with public relations and special events on a part-time basis last year, is now in charge of these areas full-time. She is also developing an outreach program to local groups with compatible interests who would like to use the MCZ's facilities for their programs.

*David (l.) and Wayne Maddison*





# Teacher Training Follow-Up

by Arlene Nichols, Education Director

As one part of the MCZ follow-up to the MITS (Museum Institute for Teaching Science) summer teacher training session, our participants were invited to attend the September 11-13 Boston '87 Minerological Symposium. Seven teachers from Brookline and Randolph (Massachusetts) attended a series of lectures, exhibits, and slide presentations and also went on a mineral collecting field trip despite a heavy rain that lasted all day.

The symposium was offered in order to develop interests formed by these teachers during the MCZ assignment. An introduction to rocks and minerals was presented as

a necessary background for understanding the process of mineralization and why fossils are found only in certain kinds of rocks. Teacher interest resulted in additional time being spent on this topic and the promise that study sets of local rocks and their component minerals would be made available on loan.

Special arrangements were made with the Massachusetts Association of Science Teachers (MAST) for the MCZ/MITS teachers to attend the MAST Fall Conference at Framingham State College on October 24. Thirteen teachers attended workshops, panels, and lunch with professional colleagues. MITS facilitator Winifred Eisan presented a program on "Critical Thinking in

Elementary Science."

A fossil-hunting field trip, delayed due to flooding caused by excessive spring rains, took place on October 31. Fifteen MITS teachers, led by Arlene Nichols and MCZ graduate student Alan Launer, traveled by van to Turners Falls, Massachusetts to look for fossil fish in the shales along the Connecticut River. Although the water was high, some teachers were successful in finding fossils and most planned to return in the summer when the lower water level would leave more of the fossil-bearing layers exposed. In addition, the teachers developed a better sense of the tedium of a dig, the excitement of a find, and the difficulties in identifying finds.

## Friends' Open House Series

The Fall open house was held in the Entomology Department and included talks by Professors Deane Bowers and Jim Carpenter, Curatorial Associate Dr. Mark Moffett, and graduate student David Maddison. Visitors to the department viewed the extensive collections including the newly refurbished ant room which houses the world's most complete ant collection.

The next open house will be held in late April in the Mammal and Bird Departments.

## Evolution Symposium

A symposium, *Current Trends in Evolutionary Thought*, will be held at the MCZ on Saturday, April 9, 1988. Professor emeritus Ernst Mayr will serve as moderator, and speakers will include Harvard Professors Andrew H. Knoll, Richard C. Lewontin, Karel F. Liem, and Margaret Schoeninger. The fee for the day, which includes morning coffee and lunch in the MCZ exhibition area, will be \$30 for Friends of the MCZ and \$40 for others. Complete information will be mailed to Friends of the MCZ in February.

### Join the Friends of the MCZ and explore behind the scenes of a distinguished museum renowned for research, exhibitions and teaching

Friends of the MCZ receive the following benefits:

- Announcements and invitations to all events including lectures, films, open houses, and previews of special exhibitions
- Discounts on MCZ courses offered to the public
- Advance notice of all MCZ natural history expeditions
- Subscription to MCZ Newsletter
- Free Admission to Harvard University Museums of Natural History
- Discounts on Museum Shop purchases
- Free Admission to the MCZ Library (full borrowing privileges for an additional fee)

Categories of Friends based on annual tax-deductible contributions:

- |   |  |
|---|--|
| <input type="checkbox"/> Patron (\$500 or more) | <input type="checkbox"/> Sponsor (\$250) |
| <input type="checkbox"/> Associate (\$100)      | <input type="checkbox"/> Family (\$35)   |
| <input type="checkbox"/> Individual (\$25)      | <input type="checkbox"/> Student (\$10)  |

**Friends of the MCZ**  
**Museum of Comparative Zoology**  
**Harvard University, Cambridge, Massachusetts 02138**

Make check payable to Friends of the MCZ.  
Reminder: Does your employer have a matching contribution program?

name

date

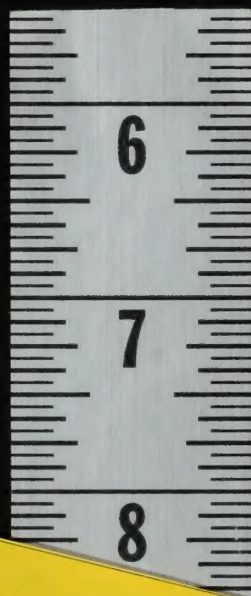
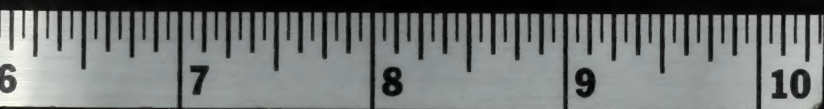
street and number

city, state, zip code

amount enclosed







MCZ newsletter  
Harvard University, Museum of Comparative Zoology  
MUS 4890.1a  
Harvard University, Museum of Comparative Zoology, Ernst Mayr

**[163] mcznewsletter1811harv**

Jan 14, 2014

